



Clean Version of SEQUENCE LISTING section



SEQUENCE LISTING

<110> HUANG, QIHONG
REED, JOHN C.
DEVERAUX, QUINN L.
MAEDA, SUSUMU

<120> INHIBITOR OF APOPTOSIS PROTEINS AND NUCLEIC ACIDS AND
METHODS FOR MAKING AND USING THEM

<130> 087102/027 2537

<140> 10/041,859

<141> 2002-01-07

<150> 60/260,478

<151> 2001-01-08

<160> 27

<170> PatentIn Ver. 3.3

<210> 1

<211> 3773

<212> DNA

<213> Bombyx mori

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<221> CDS

<222> (2733) .. (3770)

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aaa aat gga gct gcc gcc acg ttg gtg atg tta aaa aat gcg cgg gat 2801
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gca aaa atg cga cct ttc att ggt ccg ctc atg tta tcc tcg tgt gag 2849
Ala Lys Met Arg Pro Phe Ile Gly Pro Leu Met Leu Ser Ser Cys Glu
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tct tca acg aca tcc aca ctc ccg tca cct tcg tcg tca gct gat aaa 2897
Ser Ser Thr Thr Ser Thr Leu Pro Ser Pro Ser Ser Ser Ala Asp Lys
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acg gat aat cac gac aca ttc aac ttc ctt cct gat atg ccc gac atg 2945
Thr Asp Asn His Asp Thr Phe Asn Phe Leu Pro Asp Met Pro Asp Met
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cgt cgt gaa gag gaa cgt ctg aaa aca ttt gat cag tgg ccc gtt acg 2993
Arg Arg Glu Glu Glu Arg Leu Lys Thr Phe Asp Gln Trp Pro Val Thr
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Phe Leu Thr Pro Glu Gln Leu Ala Arg Asn Gly Phe Tyr Tyr Leu Gly
                               90                               95                               100

cgc ggc gac gaa gtg tgc tgt gct ttc tgt aag gta gaa att atg agg 3089
Arg Gly Asp Glu Val Cys Cys Ala Phe Cys Lys Val Glu Ile Met Arg
                               105                               110                               115

tgg gtc gaa ggc gac gat cct gcc gcc gat cat cgg aga tgg gcg ccc 3137
Trp Val Glu Gly Asp Asp Pro Ala Ala Asp His Arg Arg Trp Ala Pro
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cag tgt ccc ttt gta cga aaa caa atg tat gcc aac gct ggg gga gag 3185
Gln Cys Pro Phe Val Arg Lys Gln Met Tyr Ala Asn Ala Gly Gly Glu
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gcg acc gct gtc ggt aga gac gaa tgt ggg gcc agt gcg gcc acg cag 3233
Ala Thr Ala Val Gly Arg Asp Glu Cys Gly Ala Ser Ala Ala Thr Gln
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cct ccc cgc atg ccc ggc ccc gtg cac gcg cgg tac tcc acc gag gcc 3281
Pro Pro Arg Met Pro Gly Pro Val His Ala Arg Tyr Ser Thr Glu Ala
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gcg cgg ctc gcc acc ttc aag gac tgg ccg aga cgt atg cgc caa aaa 3329
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aaa acg aaa tgc ttc tat tgc gac gga ggg cta aaa gat tgg gaa agc 3425
 Lys Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu Lys Asp Trp Glu Ser
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gat gac gtt ccg tgg gaa cag cac gcc aga tgg ttc gac cgc tgc gcg 3473
 Asp Asp Val Pro Trp Glu Gln His Ala Arg Trp Phe Asp Arg Cys Ala
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tac gtg caa ttg gtg aaa gga cgt gac tac att cag aag gtg aag tcg 3521
 Tyr Val Gln Leu Val Lys Gly Arg Asp Tyr Ile Gln Lys Val Lys Ser
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gag gcc act gcg ata tct gct agc gaa gaa gaa cag gcc gcc acc aat 3569
 Glu Ala Thr Ala Ile Ser Ala Ser Glu Glu Glu Gln Ala Ala Thr Asn
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gat tcg act aag aac gtc gcc caa gag ggc gag aaa cat ttg gat gac 3617
 Asp Ser Thr Lys Asn Val Ala Gln Glu Gly Glu Lys His Leu Asp Asp
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tct aaa ata tgt aaa ata tgt tat tcc gag gag cgt aac gtg tgc ttc 3665
 Ser Lys Ile Cys Lys Ile Cys Tyr Ser Glu Glu Arg Asn Val Cys Phe
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 Val Pro Cys Gly His Val Val Ala Cys Ala Lys Cys Ala Leu Ser Thr
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gac aag tgc ccg atg tgt cgc agg acg ttc acg aat gcg gtg cgg ctc 3761
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 Tyr Phe Ser
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<210> 2
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 <212> PRT
 <213> Bombyx mori

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Met Leu Lys Asn Ala Arg Asp Ala Lys Met Arg Pro Phe Ile Gly Pro
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Leu Met Leu Ser Ser Cys Glu Ser Ser Thr Thr Ser Thr Leu Pro Ser
 35 40 45

Pro Ser Ser Ser Ala Asp Lys Thr Asp Asn His Asp Thr Phe Asn Phe
 50 55 60

Leu	Pro	Asp	Met	Pro	Asp	Met	Arg	Arg	Glu	Glu	Glu	Arg	Leu	Lys	Thr	65	70	75	80
Phe	Asp	Gln	Trp	Pro	Val	Thr	Phe	Leu	Thr	Pro	Glu	Gln	Leu	Ala	Arg	85	90	95	
Asn	Gly	Phe	Tyr	Tyr	Leu	Gly	Arg	Gly	Asp	Glu	Val	Cys	Cys	Ala	Phe	100	105	110	
Cys	Lys	Val	Glu	Ile	Met	Arg	Trp	Val	Glu	Gly	Asp	Asp	Pro	Ala	Ala	115	120	125	
Asp	His	Arg	Arg	Trp	Ala	Pro	Gln	Cys	Pro	Phe	Val	Arg	Lys	Gln	Met	130	135	140	
Tyr	Ala	Asn	Ala	Gly	Gly	Glu	Ala	Thr	Ala	Val	Gly	Arg	Asp	Glu	Cys	145	150	155	160
Gly	Ala	Ser	Ala	Ala	Thr	Gln	Pro	Pro	Arg	Met	Pro	Gly	Pro	Val	His	165	170	175	
Ala	Arg	Tyr	Ser	Thr	Glu	Ala	Ala	Arg	Leu	Ala	Thr	Phe	Lys	Asp	Trp	180	185	190	
Pro	Arg	Arg	Met	Arg	Gln	Lys	Pro	Glu	Glu	Leu	Ala	Glu	Ala	Gly	Phe	195	200	205	
Phe	Tyr	Thr	Gly	Gln	Gly	Asp	Lys	Thr	Lys	Cys	Phe	Tyr	Cys	Asp	Gly	210	215	220	
Gly	Leu	Lys	Asp	Trp	Glu	Ser	Asp	Asp	Val	Pro	Trp	Glu	Gln	His	Ala	225	230	235	240
Arg	Trp	Phe	Asp	Arg	Cys	Ala	Tyr	Val	Gln	Leu	Val	Lys	Gly	Arg	Asp	245	250	255	
Tyr	Ile	Gln	Lys	Val	Lys	Ser	Glu	Ala	Thr	Ala	Ile	Ser	Ala	Ser	Glu	260	265	270	
Glu	Glu	Gln	Ala	Ala	Thr	Asn	Asp	Ser	Thr	Lys	Asn	Val	Ala	Gln	Glu	275	280	285	
Gly	Glu	Lys	His	Leu	Asp	Asp	Ser	Lys	Ile	Cys	Lys	Ile	Cys	Tyr	Ser	290	295	300	
Glu	Glu	Arg	Asn	Val	Cys	Phe	Val	Pro	Cys	Gly	His	Val	Val	Ala	Cys	305	310	315	320
Ala	Lys	Cys	Ala	Leu	Ser	Thr	Asp	Lys	Cys	Pro	Met	Cys	Arg	Arg	Thr	325	330	335	
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 <222> (3)
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<220>
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 <213> Artificial Sequence

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<210> 8
 <211> 172
 <212> PRT
 <213> Bombyx mori

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 20 25 30
 Asp Glu Val Cys Cys Ala Phe Cys Lys Val Glu Ile Met Arg Trp Val
 35 40 45
 Glu Gly Asp Asp Pro Ala Ala Asp His Arg Arg Trp Ala Pro Gln Cys
 50 55 60
 Pro Phe Val Glu Ala Ala Arg Leu Ala Thr Phe Lys Asp Trp Pro Arg
 65 70 75 80
 Arg Met Arg Gln Lys Pro Glu Glu Leu Ala Glu Ala Gly Phe Phe Tyr
 85 90 95
 Thr Gly Gln Gly Asp Lys Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu
 100 105 110
 Lys Asp Trp Glu Ser Asp Asp Val Pro Trp Glu Gln His Ala Arg Trp
 115 120 125
 Phe Asp Arg Cys Ala Tyr Val Leu Cys Lys Ile Cys Tyr Ser Glu Glu
 130 135 140
 Arg Asn Val Cys Phe Val Pro Cys Gly His Val Val Ala Cys Ala Lys
 145 150 155 160
 Cys Ala Leu Ser Thr Asp Lys Cys Pro Met Cys Arg
 165 170

<210> 9
 <211> 172
 <212> PRT
 <213> Spodoptera frugiperda

<400> 9
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 Ser Gly Glu Gln Leu Ala Arg Asn Gly Phe Tyr Tyr Leu Gly Arg Arg
 20 25 30
 Asp Glu Ala Arg Cys Ala Phe Cys Lys Val Glu Ile Met Arg Trp Val
 35 40 45

Glu	Gly	Asp	Asp	Pro	Ala	Lys	Asp	His	Gln	Arg	Trp	Ala	Pro	Gln	Cys
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Cys	Met	Arg	Gln	Lys	Pro	Glu	Glu	Leu	Ala	Glu	Ala	Gly	Phe	Phe	Tyr
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Thr	Gly	Gln	Gly	Asp	Lys	Thr	Lys	Cys	Phe	Tyr	Cys	Asp	Gly	Gly	Leu
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Phe	Asp	Arg	Cys	Ala	Tyr	Val	Leu	Cys	Lys	Ile	Cys	Tyr	Ala	Glu	Glu
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<212> PRT
<213> Trichoplusia ni
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Asp	Glu	Val	Arg	Cys	Ala	Phe	Cys	Lys	Val	Glu	Ile	Met	Arg	Trp	Val
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Lys	Asp	Trp	Glu	Asn	Asp	Asp	Val	Pro	Trp	Glu	Gln	His	Ala	Arg	Trp
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<210> 11
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<212> PRT
<213> *Cydia pomonella* granulovirus

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Ser Pro Glu Thr Met Ala Lys Asn Gly Phe Tyr Tyr Leu Gly Arg Ser
20 25 30

Asp Glu Val Arg Cys Ala Phe Cys Lys Val Glu Ile Met Arg Trp Lys
35 40 45

Glu Gly Glu Asp Pro Ala Ala Asp His Lys Lys Trp Ala Pro Gln Cys
50 55 60

Pro Phe Val Glu Ala Ala Arg Val Lys Ser Phe His Asn Trp Pro Arg
65 70 75 80

Cys Met Lys Gln Arg Pro Glu Gln Met Ala Asp Ala Gly Phe Phe Tyr
85 90 95

Thr Gly Tyr Gly Asp Asn Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu
100 105 110

Lys Asp Trp Glu Pro Glu Asp Val Pro Trp Glu Gln His Val Arg Trp
115 120 125

Phe Asp Arg Cys Ala Tyr Val Leu Cys Lys Ile Cys Tyr Val Glu Glu
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Cys Ile Val Cys Phe Val Pro Cys Gly His Val Val Ala Cys Ala Lys
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Cys Ala Leu Ser Val Asp Lys Cys Pro Met Cys Arg
165 170

<210> 12
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<213> *Orgyia pseudotsugata*

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 35 40 45
 Arg Gly Asp Asp Pro Glu Thr Asp His Lys Arg Trp Ala Pro Gln Cys
 50 55 60
 Pro Phe Val Glu Ala Ala Arg Leu Arg Thr Phe Ala Glu Trp Pro Arg
 65 70 75 80
 Gly Leu Lys Gln Arg Pro Glu Glu Leu Ala Glu Ala Gly Phe Phe Tyr
 85 90 95
 Thr Gly Gln Gly Asp Lys Thr Arg Cys Phe Cys Cys Asp Gly Gly Leu
 100 105 110
 Lys Asp Trp Glu Pro Asp Asp Ala Pro Trp Gln Gln His Ala Arg Trp
 115 120 125
 Tyr Asp Arg Cys Glu Tyr Val Leu Cys Lys Ile Cys Leu Gly Ala Glu
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 Lys Thr Val Cys Phe Val Pro Cys Gly His Val Val Ala Cys Gly Lys
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 Cys Ala Ala Gly Val Thr Thr Cys Pro Val Cys Arg
 165 170

<210> 13
 <211> 172
 <212> PRT
 <213> *Drosophila melanogaster*

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 35 40 45
 Gln Glu Asp Gln Pro Val Pro Glu His Gln Arg Trp Ser Pro Asn Cys
 50 55 60
 Pro Leu Leu Glu Thr Ala Arg Leu Arg Thr Phe Glu Ala Trp Pro Arg
 65 70 75 80
 Asn Leu Lys Gln Lys Pro His Gln Leu Ala Glu Ala Gly Phe Phe Tyr
 85 90 95
 Thr Gly Val Gly Asp Arg Val Arg Cys Phe Ser Cys Gly Gly Gly Leu
 100 105 110

Met Asp Trp Asn Asp Asn Asp Glu Pro Trp Glu Gln His Ala Leu Trp
 115 120 125

Leu Ser Gln Cys Arg Phe Val Leu Cys Lys Ile Cys Tyr Gly Ala Glu
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Tyr Asn Thr Ala Phe Leu Pro Cys Gly His Val Val Ala Cys Ala Lys
 145 150 155 160

Cys Ala Ser Ser Val Thr Lys Cys Pro Leu Cys Arg
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<210> 14
 <211> 68
 <212> PRT
 <213> Bombyx mori

<400> 14
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 20 25 30

Gly Asp Lys Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu Lys Asp Trp
 35 40 45

Glu Ser Asp Asp Val Pro Trp Glu Gln His Ala Arg Trp Phe Asp Arg
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Cys Ala Tyr Val
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<210> 15
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 <212> PRT
 <213> Spodoptera frugiperda

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Gln Lys Pro Glu Glu Leu Ala Glu Ala Gly Phe Phe Tyr Thr Gly Gln
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Gly Asp Lys Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu Lys Asp Trp
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Glu Asn His Asp Val Pro Trp Glu Gln His Ala Arg Trp Phe Asp Arg
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Cys Ala Tyr Val
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<210> 16
 <211> 68
 <212> PRT
 <213> Trichoplusia ni

<400> 16
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 20 25 30
 Gly Asp Lys Thr Lys Cys Phe Tyr Cys Asp Gly Gly Leu Lys Asp Trp
 35 40 45
 Glu Asn Asp Asp Val Pro Trp Glu Gln His Ala Arg Trp Phe Asp Arg
 50 55 60
 Cys Ala Tyr Val
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<210> 17
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 <212> PRT
 <213> Cydia pomonella granulovirus

<400> 17
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 35 40 45
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 50 55 60
 Cys Ala Tyr Val
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<210> 18
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 <213> Orgyia pseudotsugata

<400> 18
 Glu Ala Ala Arg Leu Arg Thr Phe Ala Glu Trp Pro Arg Gly Leu Lys
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 Gln Arg Pro Glu Glu Leu Ala Glu Ala Gly Phe Phe Tyr Thr Gly Gln
 20 25 30
 Gly Asp Lys Thr Arg Cys Phe Cys Cys Asp Gly Gly Leu Lys Asp Trp
 35 40 45

Glu Pro Asp Asp Ala Pro Trp Gln Gln His Ala Arg Trp Tyr Asp Arg
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Cys Glu Tyr Val
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<210> 19
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 <213> *Drosophila melanogaster*

<400> 19
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 1 5 10 15

Gln Lys Pro His Gln Leu Ala Glu Ala Gly Phe Phe Tyr Thr Gly Val
 20 25 30

Gly Asp Arg Val Arg Cys Phe Ser Cys Gly Gly Gly Leu Met Asp Trp
 35 40 45

Asn Asp Asn Asp Glu Pro Trp Glu Gln His Ala Leu Trp Leu Ser Gln
 50 55 60

Cys Arg Phe Val
 65

<210> 20
 <211> 37
 <212> PRT
 <213> *Bombyx mori*

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 1 5 10 15

Cys Gly His Val Val Ala Cys Ala Lys Cys Ala Leu Ser Thr Asp Lys
 20 25 30

Cys Pro Met Cys Arg
 35

<210> 21
 <211> 37
 <212> PRT
 <213> *Spodoptera frugiperda*

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 1 5 10 15

Cys Gly His Val Val Ala Cys Ala Lys Cys Ala Leu Ala Ala Asp Lys
 20 25 30

Cys Pro Met Cys Arg
35

<210> 22
<211> 37
<212> PRT
<213> Trichoplusia ni

<400> 22
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1 5 10 15
Cys Gly His Val Val Ala Cys Ala Lys Cys Ala Leu Ala Ala Asp Lys
20 25 30

Cys Pro Met Cys Arg
35

<210> 23
<211> 37
<212> PRT
<213> Cydia pomonella granulovirus

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1 5 10 15
Cys Gly His Val Val Ala Cys Ala Lys Cys Ala Leu Ser Val Asp Lys
20 25 30

Cys Pro Met Cys Arg
35

<210> 24
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<212> PRT
<213> Orgyia pseudotsugata

<400> 24
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1 5 10 15
Cys Gly His Val Val Ala Cys Gly Lys Cys Ala Ala Gly Val Thr Thr
20 25 30

Cys Pro Val Cys Arg
35

<210> 25
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<212> PRT
<213> Drosophila melanogaster

<400> 25

Leu Cys Lys Ile Cys Tyr Gly Ala Glu Tyr Asn Thr Ala Phe Leu Pro
 1 5 10 15

Cys Gly His Val Val Ala Cys Ala Lys Cys Ala Ser Ser Val Thr Lys
 20 25 30

Cys Pro Leu Cys Arg
 35

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic fluorogenic
 caspase-9 substrate

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Leu Glu His Asp
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<210> 27

<211> 4

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic fluorogenic
 caspase-3 substrate

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Asp Glu Val Asp
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